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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,273	01/30/2006	Atsuo Okaichi	050868	1681
23850 7590 06/23/2009 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
STIMPERT, PHIL/PEARL				
ART UNIT		PAPER NUMBER		
3746				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/566,273

Applicant(s)

OKAICHI ET AL.

Examiner

Philip Stimpert

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-10 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-10, 12-14 and 16 is/are rejected.
- 7) ☒ Claim(s) 4 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 April 2009 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the mesh member of claims 14 and 15 must be shown *in conjunction with the plurality of plates* or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 6, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,554,015 to Dreiman et al. (Dreiman) in view of US Patent 5,937,817 to Schanz et al. (Schanz) and US Patent 5,582,271 to Mielo (Mielo).

5. Regarding claim 1, Dreiman teaches a compressor comprising a container (22), a compressor mechanism (piston and cylinder, see Fig. 1) which is disposed in a lower portion (34) of the container for compressing working fluid (refrigerant), a motor (24) which is disposed in an upper portion (32) of the container for driving the compressor mechanism, a discharge pipe (not labeled, lower chamber to the left of the piston) which is disposed in an upper space (above the bottom) of the container for discharging the compressed working fluid, an oil reservoir (30) which is provided at a bottom of the

container for storing refrigeration oil (col. 3, ln. 55, "oil sump"). Dreiman does not teach a wave-suppressing member in the oil reservoir.

6. Schanz teaches an oil cooling system for an internal combustion engine. Schanz particularly teaches that "aeration or foaming of the oil affecting the oil's performance in lubricating..." (col. 1, ln. 22-23). Schanz also teaches providing a baffle (102), or divided member, in an oil reservoir, the baffle comprising vertical walls (126, 130) which "enhance the cooling and de-aerating aspects of the oil cooling system" (col. 6, ln. 17-18) and being able to move and float within the reservoir (col. 6, ln. 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the oil reservoir of the compressor of Dreiman with a baffle as taught by Schanz, in order to prevent effects from aeration on the lubrication of the compressor. However, Schanz does not specifically teach that the baffle (102) extends astride an interface between the oil and a separate working fluid.

7. Mielo teaches an apparatus for filtering oil in a reservoir. In particular, Mielo teaches a floating surface flow-leveling means (20) which floats on a surface of the oil and allows air bubbles to escape (de-aeration). Further, Mielo teaches an oil reservoir in which there is space for a second, gaseous fluid. As a side note, the examiner notes that reference sign 23 in the drawings appears to equate to 25 in the specification. Since the oil reservoir of Dreiman is the bottom of the container (22) of the compressor, and thus is open at its upper end, it would have been obvious to one of ordinary skill at the time of the invention to provide the baffle of Schanz at the interface of oil and refrigerant in Dreiman, as taught by Mielo, in order to adapt the de-aeration teachings of

Schanz to the compressor oil reservoir of Dreiman. Thus provided, the baffle would divide the interface into a plurality of sections, or pieces, for instance along each deflector wall (130).

8. Regarding claim 3, the baffle taught by Schanz and provided to Dreiman includes a plurality of vertical plates (126, 130).

9. Regarding claim 6, the floating leveler (20) taught by Mielo is porous, inasmuch as it allows air bubbles to escape therefrom. It would have been obvious to provide this property to the baffle being provided to Dreiman in order to allow de-aeration as taught by Schanz.

10. Regarding claim 10, the wave-suppressing member taught by Schanz and provided to Dreiman comprises several plate members (127, 130) extending astride the interface.

11. Regarding claim 12, in order for the wave-suppressing member of the combination to float on the interface as taught by Mielo, one of ordinary skill would appreciate that it must be less dense than the oil and more dense than the refrigerant.

12. Claims 5, 7-9, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreiman in view of Schanz and Mielo as applied to claim 1 above, and further in view of US patent 5,176,506 to Siebel (Siebel).

13. Regarding claim 7, the previously applied references do not teach a mesh member astride the interface. Siebel teaches a hermetic compressor, and particularly teaches such a mesh member (170) astride an interface, for filtering the lubricating oil

as it leaves the refrigerant. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a mesh member as taught by Siebel to the wave-suppressing member provided to Dreiman, in order to filter the lubricating oil.

14. Regarding claim 5, as modified by Siebel, the divided member comprises divided member comprises a honeycomb member (the filter is formed as a stainless steel mesh which would contain many pores or cells).

15. Regarding claim 8, Siebel teaches a fibrous mesh member (The filter 170 is a circularly shaped screen member formed from interwoven fibers).

16. Regarding claims 9, 14, and 16, inasmuch as the interior of the container (22) of Dreiman is a portion which is divided by the divided member, the mesh member is in a divided portion.

17. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreiman in view of Schanz and Miolo as applied to claim 1 above, and further in view of US patent (6,264,448) to Itoh et al. (Itoh).

18. The previously applied references do not teach that the working fluid is carbon dioxide. Itoh et al. teach a compressor that uses carbon dioxide as a working gas (see column 1 lines 15-30). It would have been obvious to one of ordinary skill in the art at the time of invention to use carbon dioxide as a working fluid in the apparatus of Siebel as taught by Itoh et al. since carbon dioxide is more environmentally friendly than traditional refrigerants such as Freon.

Allowable Subject Matter

19. Claims 4 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
20. The following is a statement of reasons for the indication of allowable subject matter: the arrangement of a lattice of plates in a wave-suppressing member is not shown in the prior art of record.
21. Regarding the indication of allowable subject matter, the examiner notes that any amendment which places the honeycomb or mesh in dependence from a claim including the lattice limitation will be improper, since these features are not shown in conjunction by the applicant.

Response to Arguments

22. Applicant's arguments, see page 5, filed 10 April 2009, with respect to indefiniteness have been fully considered and are persuasive. The rejections under 35 U.S.C. 112 have been withdrawn.
23. Applicant's arguments with respect to anticipation and obviousness have been considered but are moot in view of the new grounds of rejection presented above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Stimpert whose telephone number is (571)270-1890. The examiner can normally be reached on Mon-Fri 7:30AM-4:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/P. S./
Examiner, Art Unit 3746
16 June 2009